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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/371,343 08/10/99 NOGUCHI

Y 5087.304-US

EXAMINER

IM52/0612

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ART UNIT

PAPER NUMBER

1731

DATE MAILED:

06/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

09/371,343

Applicant(s)

NOGUCHI ET AL.

Examiner

Steve Alvo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10.
- 18) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152).
- 20) ☐ Other:

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO/9602632 (equivalent to U.S. Patent 5,68,765) with or without SAITO et al or GLASSER et al.

WO/9602632 teaches treating pulp with Bacillus sp. SD902 to produce a xylose or xylooligosaccharide. WO/9602632 teaches that the Bacillus sp. SD902 treated pulp can be further treated with bleaching agents and/or alkali to bleach the pulp. It would have been obvious that such treatment steps would modify the cellulose in the pulp. WO/9602632 does not remove the xylose or xylooligosaccharide from the cellulose and thus any further treatment of the xylose or xylooligosaccharide would also modify the cellulose. If necessary, GLASSER et al teaches treating xylose or xylooligosaccharide with methyl chloride to produce ethers. See column 1, lines 26-34 and 41-55). It would have been obvious to one of ordinary skill in the art that the cellulose containing xylose or xylooligosaccharide produced by WO/9602632 could be treated with methyl chloride to produce ethers as taught by GLASSER et al. Or SAITO et al teaches

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treating celluloses with an etherifying agent to produce an cellulose ether. It would have been obvious to treat the cellulose of WO/9602632 (wood pulp) to produce a cellulose ether in the manner taught by SAITO et al.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over ADMITTED PRIOR ART (specification, page 2, line 31-36) in view of WO/9602632 (equivalent to U.S. Patent 5,68,765).

ADMITTED PRIOR ART teaches pretreating cellulose with an enzyme followed by modifying the enzyme treated cellulose with epoxy alkane in the presence of quaternary ammonium base to reduce the degree of cellulose depolymerization. It would have been obvious to substitute the cellulase enzyme of WO/9602632 for the cellulase enzyme of the ADMITTED PRIOR ART to reduce the degree of cellulose depolymerization. How does the cellulase modification of the ADMITTED PRIOR ART differ from the modification of the instant method?

*and produce hydroxyethyl ethers*

All claims are drawn to the same invention claimed in the parent application prior to the filing of this Continued Prosecution Application under 37 CFR 1.53(d) and could have been finally rejected on the grounds and art of record in the next Office action. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing under 37 CFR 1.53(d). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

When filing an **"Official" FAX** in Group 1730, please indicate in the Header (upper right) **"Official"** for papers that are to be entered into the file. The **"Official" FAX** phone numbers for this TC 1700 are:

**Non-Final Fax: (703) 872-9310      After-Final FAX: (703) 872-9311**

When filing an **"Unofficial" FAX** in Group 1730, please indicate in the Header (upper right) **"Unofficial"** for Draft Documents and other Communications with the PTO that are not for entry into the file of the application. This will expedite processing of your papers. The **"Unofficial" FAX** phone number for this Art Unit (1731) is **(703) 305-7115**.

Any inquiry concerning this communication or earlier communications from the **primary examiner** should be directed to **Steve Alvo** whose telephone number is **(703) 308-2048**. The Examiner can normally be reached on Monday - Friday from **6:00 AM - 2:30 PM (EST)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Stanley Silverman, can be reached on 703-308-3837.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Group receptionist** whose telephone number is **(703) 308-0661**.

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MSA  
June 11, 2001

**STEVE ALVO**  
**PRIMARY EXAMINER**  
**ART UNIT 1731**